

Characteristics and index system construction of airport ecological community

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Abstract: Airport ecological community is a prospective subject of environmental protection, and is the development direction of airport building. But there is no universal set of formal evaluation system for airport ecological community. From the connotation of airport ecological community, this paper discusses the characteristics and construction goals of airport ecological community, and on this basis, proposes the evaluation index system of airport ecological community, hoping to guide the construction of airport ecological community.

Introduction

Airport are takeoff and landing grounds. Airport are composed of flight facilities, living facilities and ancillary facilities corresponding components. Airports make airplane takeoff safely and rapidly, for aircraft maintenance and supplies, reliable safe carriage of passengers, cargo, so passengers and cargo arrive in the city center near the city, as well as guests comfort care. With the development of economy, society and environmental construction, the airport function has been the cell from traditional service - dual function of life, into a service - living - culture - multi functional environment. People in the ecological environment have become increasingly demanding quality airport, airport ecological environment quality of the pros and cons, have become an important factor directly affecting the health of passengers and airport staff and the quality of services, relating to the ability to improve airport operations.

Airport concept and connotation of ecological community

From an ecological based region (ecological base region refers to a region in order to maintain the current living standards of the population needed to produce a certain area of land and water) theory, the airport should be a per capita ecological community ecological based area as small as possible. Therefore, from the broad sense, ecological community not only involves airport planning, design and construction issues, but also social problems involving human life and many other aspects. We should not only reduce material and energy consumption in airport building, but also in airport area management, and establish a correct concept of consumption guiding staff, so that they will follow conserve resources, moderate consumption lifestyle, and gradually establish harmony with the environment, low-resource and low energy consumption moderate consumption system, to minimize the area per capita ecological base, realize the goal of the construction of the airport ecological community.

From inhabited theory, we can understand the airport area as a population of settlements. If you start from the ecological point of view, we can understand the airport area as an artificial ecosystem, which requires constant daily intake of material, energy from other places, but also continue to output large amounts of waste to nature, to maintain existing airport within the region's population living standards, quality of life and the proper implementation of the airport area flight activities. From this standpoint, almost every airport needs to have a much larger area than the actual area of the ecological base. Therefore, by creating ecological community airport, making the airport area to ensure the normal

operation and maintenance of the various functions of passengers and staff at a better quality of life under the premise of minimizing the area per capita ecological base region.

Based on the above analysis and research, according to the basic principles of ecology, environmental engineering and behavioral science theory, we believe that the so-called ecological area of the airport, the airport area is to achieve the humanities, operations, overall coordination of complex natural ecosystems, thereby to achieve a stable and orderly state of evolution. Airports ecological community should be the result of the airport area ecological development, social harmony, efficient operation, good ecological environment, workplace resources cycle, is the advanced stage of development of the airport area. The basic concept of ecological community airport should be: harmony between man and nature, ecosystem virtuous cycle of life functions, operators and cultural functions overall coordination, to achieve sustainable development in the airport area.

The objective characteristics and construction of airport ecological community

Airport ecological community characteristics

According to the basic concept of the airport ecological community, the basic characteristics of the airport ecological community can be summarized as "three of one continuing", namely: naturalization, harmonious, humane and sustainable development.

The so-called naturalization, is the construction of the airport area to follow ecological laws, to maximize rely on nature, close to nature, protect nature, with nature.

The so-called harmonization, is the construction of the airport area should be harmonious coordination with the local culture, geography, climate and other conditions, the airport area of people, architecture and ecological environment in harmony and mutual benefit. Airports ecological community harmony, not only reflected in the relationship between man and nature, nature, people symbiosis, people return to nature, close to nature, nature and into the area of the airport, more importantly, in human relations. This harmony is the core of the ecological community airport.

The so-called humane, is that area of the airport construction which must adhere to the people-oriented, the creation of the human environment, human care, to meet passenger travel, the staff work, the demand for life; airport ecological community is to create a satisfied man's own evolution demand environment, full of human touch, culture rich, has a strong mutual help groups, full of vigor and vitality, the airport is not an ecological community dotted with natural green and dead human environment, but about people, cultivate people's "organ of love".

The so-called sustainable development, construction and management of the airport area is to fully consider the requirements of future development, improve resource and energy cut costs and recycling, to achieve self-sustaining regional ecological airport, stability and cyclical.

Airport ecological community building objectives

Airport ecological community concept is based on objective characteristics of the airport area and airport eco-residential construction, both emphasizing the natural ecological environment construction area of the airport, protection and optimization, more emphasising on coordination with the surrounding natural environment, harmony and environmental behavior constraints; emphasizes harmony between man and nature, but nature does not provide the pros and cons; emphasizes a healthy ecosystem, but does not specify the strength of ecosystems; pays special attention to the specific functional requirements of the airport area, emphasizing the region's airport three functions to the overall coordination, to achieve the requirements of sustainable development. Thus, not only adapt to the natural environment to create a favorable regional airport ecological community, but also to adapt to the natural environment to create a relatively poor area airports to carry out ecological community activities.

Airports ecological community has gone beyond mere protection of the environment that is the airport area construction and environment to maintain the level of coordination, integration of operational cultural, historical, economic and other factors, to a more comprehensive direction, embodied in a broad ecological view. Naturally, facilities and people melt area of the airport as an organic whole, the formation of mutualism structure, development goals airport area is to achieve human

- natural harmony (including interpersonal harmony between man and nature in harmony, harmony of natural systems), among which the pursuit of harmony natural systems, man and nature is the basis, and harmony between people is the goal and the essence, the airport area airports ecological community can not only "support" nature, but also meet the people's own growth and development demand, to achieve "people harmony".

Evaluation index system construction of airport ecological community

Purpose of establishing airport ecology evaluation system

Good airport ecological community index system, can carry out scientific, reasonable and valuable assessments on the existing airport area, and can reinforce airport ecological residential construction guidance and control; on the other hand, through the assessment we can be found airport ecological community gap, the need to intensify regulation in what areas. It can be applied to the ecological environment in different area of the airport, but also to analyze and evaluate the different programs in the same airport area planning, optimization and selection.

Method to establish airport ecology evaluation system

Airports ecological residential building, according to the geographical natural ecological environment, the use of the basic principles of ecology and architecture, reasonable arrangements for relations between the relevant factors in the content area of the airport ecological construction, forming between the organic and the airport area surrounding natural environment combination, forming a virtuous circle system between people, architecture, culture and natural environment. However, China has a vast wide, airport distribution, the differences in geography, climate and ecological environment will inevitably lead to the airport area natural differences. The different nature, type of airport, as models, different positions, must be focused on the form, structure and culture. Airport ecological community is a complex system, evaluation and more associated with high indexes reflect objective index system is composed of many multi-level architecture consisting indicators. If only a single evaluation method, likely impact factor considered inadequate, or because of the expert background knowledge, experience, experience, and other subjective factors on the assessment result bias. So the evaluation airport ecological community must take comprehensive evaluation method.

Principles of establishing airport ecological community system

Airport ecological community system is complex, there are both the interaction between the various subsystems and mutual input and output, so to choose the most sensitive in a number of indicators, measures to facilitate and enrich the connotation of leading indicators should follow the following principles .

Systematic principle. Fully reflect all aspects of the airport eco-cell system, in line with its objective meaning, but it should avoid duplication of indexes, so that the combination of the evaluation objectives and targets for the structured whole.

Prospective principles. Ecological community concept airport has strong times. Ecology, transportation, ethics, landscape, political and cultural subjects will continue to promote the development of ecological community airport requirements, content and definition of correction and improvement. Evaluation is necessary to reflect the current situation, but also through the relationship between the expression status of resources in the past, economic, social and environmental factors and between, indicating the future development trend.

Scientific principles. Evaluation system should be based on "the theory of sustainable development" as a guide, fully embodies the sustainability of the system. An ecological area of the airport should first be sustainable, taking into account the elements of the idea of social, economic and natural systems coordinated development framework for building evaluation index system design.

Operability principles. Evaluation is not possible, to ensure the easy availability and reliability of the data, also be noted that the comprehensive index and the main index.

People-oriented principle. Who is the soul of the airport, including passengers and staff. Define the scope of the index system should be people-centered activities.

Comparable amount in principle be feasible. Comparability requirements of each index can compare statistical indicators, meaning, scope at different airports have a certain universality. Can quantify either the qualitative indicators can quantify indirect assignment; the second is direct quantification quantitative indicators. Feasible principle requires index data easily accessible, easy to analyze calculations.

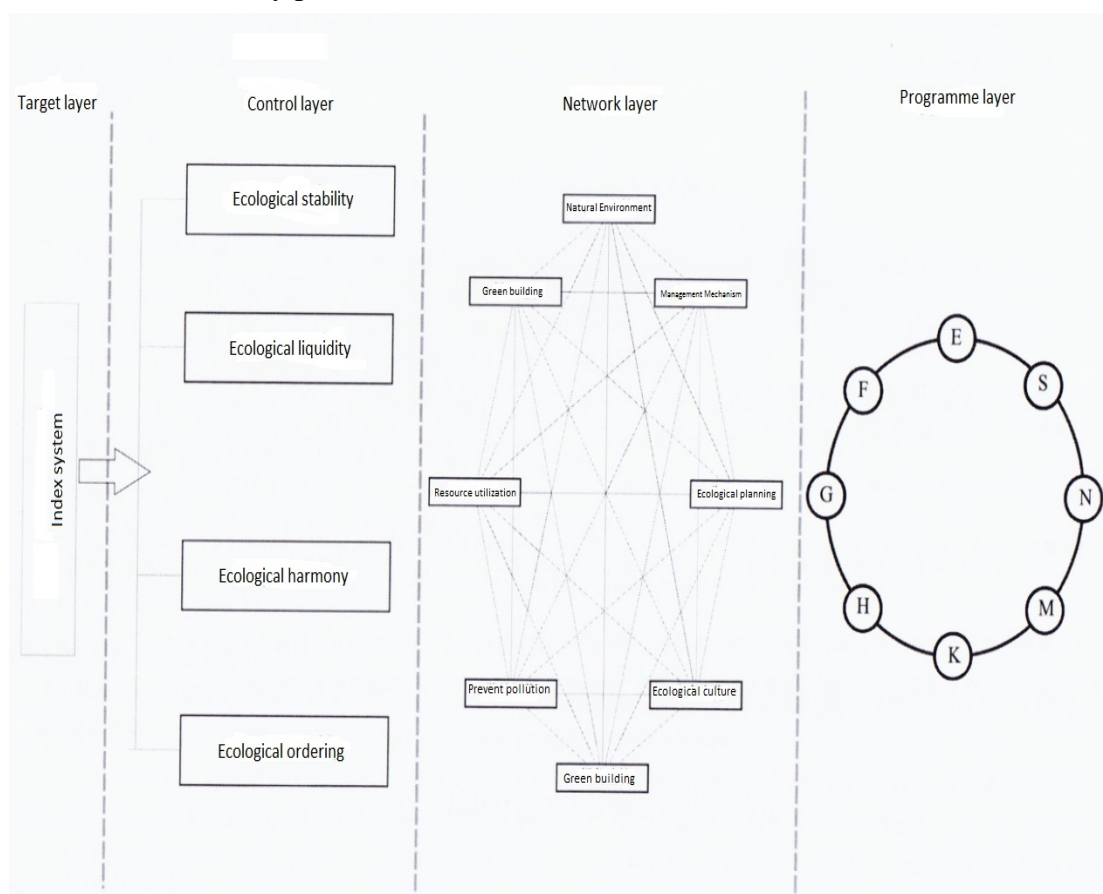
Dynamic guiding principles. Airports ecological community building is a dynamic process, the index system chosen must be able to reflect the history of the airport construction and development, status, potential, and trends, reveal the inherent law of development. Indicators should reflect the situation in each particular field to be evaluated, to guide the development, adjustment and implementation of sustainable development policies.

Evaluation system primaries ecological community airports

Clear objective evaluation target system. Use of the airport complex ecosystem and landscape ecology methods, the performance of the airport area and the surrounding resources and the environment, as well as ecological processes characteristic sensitivity and comprehensive analysis of integrated ecological environment, to understand the potential and constraints of the airport area environment .

Analysis of system elements, identify assessment project. Based on more than 50 airports across the country on research based on extensive data collection, the selection of the airport ecological community 126 index factor. Regional Ecological airports, including ecological process analysis, ecological potential analysis, pattern analysis and ecologically sensitive ecological analysis.

Indicators for evaluating. Systematic analysis of the ecological factors, according to the target layer, the control layer, network layer, layer is divided into four categories program eight groups, and established a relatively perfect associated with the feedback mechanism.



Conclusion

Ecological residential construction airport environmental protection work in a forward-looking research and complex systems engineering, although the construction of the airport in recent years has

made great progress in ecological civilization gratifying, we still lack a formal, universal indicator system which can boot airport ecological community building activities. This article presents some discussions in this regard, but obviously it's not enough. Ecological residential construction airport requires long-term efforts to constantly explore, summarize, update to achieve sustainable development goals.

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